

CLAIMS

1. A method of determining whether one or more of at least two signal paths has been altered, the paths each having a transit time associated therewith, the method comprising the steps of: monitoring the difference between the transit time of a first signal path and the transit time of a second signal path such that a change in the difference between the transit times of the two paths can be detected; and, in dependence at least in part on any such detected change, generating an alarm signal.
2. A method as claimed in claim 1, wherein the difference between the transit times of the paths is monitored by: introducing marker signals onto the first and second paths at respective entry points; receiving the marker signals at respective collection points along the first and second paths; and, monitoring the arrival times of the marker signals in one path relative to the arrival times of marker signals in the other path.
3. A method as claimed in claim 2, wherein for each marker signal introduced onto one path, a corresponding marker signal is introduced onto the other path, and wherein the difference in the arrival times of corresponding marked signal is used to monitor the difference in the respective transit times associated with the first and second paths.
4. A method as claimed in claim 3, wherein the difference in the time of arrival of marker signals is monitored.
5. A method as claimed in any of claims 2 to 4, including the step of introducing into each marker signal an indication of the relative time at which that marker signal was introduced onto a path, the relative time being measured relative to a clock source.
6. A method as claimed in any of claims 2 to 4, wherein a marker signal in one stream includes an indication of the time at which that marker signal was introduced relative to the time at which a marker was introduced into the other stream.
7. A method as claimed in any previous claim, wherein the first and second paths extend between a common upstream location and a common downstream location.
8. A method as claimed in claim 7 when dependent on claim 6, wherein the common upstream clock source is located at the upstream location.

9. A method as claimed in a previous claim, wherein each path carries a respective signal stream, the signal stream carried by the first path being representative of the same content as the signal carried by the second path.

10. A method as claimed in claim 7 or 8, wherein the relative time of arrival of marker signals is measured relative to a common downstream clock source located at the downstream location.

11. A method as claimed in claim 1, wherein the difference between the transit times of the two paths is determined by receiving marker signals from respective entry points on the first and second paths, and monitoring the arrival times of the marker signals.

12. A method as claimed in claim 11, wherein each marker signal includes a time stamp indicative of the time at which that marker signal was introduced onto a path relative to a clock source, the method including the further step of reading the time stamps and taking into account the time difference between the time at which packets have been introduced onto the first and second paths when determining the difference in the transit times of the two paths.

13. A method as claimed in any previous claim, wherein each path carries video data.

14. A receiving station for receiving data from a sending station sent over at least a first path and a second path, the paths each carrying respective marker signals, the receiving station having a reading stage for detecting the presence of marker signals, and for monitoring the time of arrival of marker signals from one path relative to the time of arrival of marker signals from the other path, and a processing stage for determining, in dependence at least in part on the monitored arrival times, the difference in transit times between marker signals travelling along the first path and the transit time of marker signals travelling along the second path.

15. A receiving station as claimed in claim 14, wherein the processing stage is configured to perform the following steps: (i) calculate the difference between the transit time of a marker on one path and the transit time of another marker on the other path; (ii)

repeat step (i) for each pair of subsequently received markers; and, (iii) if a change in the difference in transit time associated with received pairs of markers reaches a threshold value, generate an alarm signal.

16. A receiving station as claimed in claim 15, wherein an alarm signal is generated only if the threshold value has been reached a predetermined number of times within a time period.

17. Apparatus for sending and receiving data over a network, including a receiving station as claimed in claim 14 or 15, and a sending station, the receiving and sending stations being connectable to the network, the sending station being configured, when connected to the network to: send data on a plurality of paths, the data including marker signals, each marker signal including a respective time stamp, the time stamp of a marker signal being indicative of the relative time at which that marker signal was transmitted.

18. Apparatus as claimed in claim 16, wherein the sending station includes a common clock source, the indication of a relative time included in each stamp being a time measured relative to the common clock source.

19. A network system including: apparatus for sending and receiving data over a network as claimed in claim 17; and, network paths each of which extends between the sending station and the receiving station, the sending station and the receiving station being separated by a distance of more than 10 km.

20. A network system as claimed in claim 19 wherein the distance separating the sending station and the receiving station is at least 100 km.

21. A receiving station which is connectable to a plurality of paths, each path having a transit time associated therewith for data transport along that path, the receiving station having means for: monitoring the difference between the transit time of a first path and the transit time of a second path such that a change in the difference between the transit times of the two paths can be detected; and, in dependence at least in part on any such detected change, generating an alarm signal.